

AMENDMENT TO THE SPECIFICATION:

Please replace the paragraph at page 10, lines 4 to 16, of the specification with the following replacement paragraph:

The current amplifier cell 10 produces identical output currents at output terminals O1 and O2. The theory of operation of current amplifier cell 10 will now be described. A signal is applied between the positive and negative input terminals of the cell. Through the action of the differential pair Q1-Q2 and the Q3-Q4 current mirror, identical output currents will be present at the collectors of Q3 and Q4. The Q3-Q4 current mirror serves to isolate variations in the input signal and produce a stable signal to the output stage. The output stage also contains ~~a current mirror, in this case, the Q5-Q6 current mirror;~~ the currents in Q5 and Q6 are designed to be equal. The emitters of transistors Q5 and Q6 are coupled to the constant supply voltage Vcc, and the bases of transistors Q5 and Q6 receive the same input current. Therefore, through the use of identical current sources I2 and I3, the outputs O1 and O2 both receive the same current. Either O1 or O2 may be used for feedback, which can improve the accuracy of the output signal.

Please replace the paragraph at page 12, lines 9-16, of the specification with the following replacement paragraph:

This current amplification system operates correctly because the current out of the collector of transistor Q5 is the same as the current out of the collector of transistor ~~Q56~~. The input current, I_{in} , is coupled to the base of transistor Q2. Since both resistive elements R1 and R2 are coupled to ground, the voltage potential must be the same across R1 and R2. Since the base of transistor Q1 is grounded, the input current I_{in} flows entirely through the resistive element R1. And so, $I_{R1} = I_{in}$. Therefore, $I_{in} * R1 = I_{R2} * R2$, so that $I_{R2} = I_{in} * R1 / R2$.

The output current is: $I_{O1} = I_{R1} + I_{R2} = I_{in} * (1 + R1 / R2)$.

Please replace the paragraph at page 12, line 22, to page 13, line 4, of the specification with the following replacement paragraph:

This output current result was obtained because O1 and O2 are equal. This is due to the action of the output stage. Through the action of the differential pair Q1-Q2, identical output currents will be present at the collectors of Q3 and Q4. The Q3-Q4 current mirror serves to isolate variations in the input signal and produce a stable signal to the output stage. The output stage also contains ~~a current mirror; in this case, the Q5-Q6 current mirror;~~ the currents in Q5 and Q6 are designed to be equal. The emitters of transistors Q5 and Q6 are coupled to the constant supply voltage Vcc, and the bases of transistors Q5 and Q6 receive the same input voltage. Therefore, through the use of identical current sources I2 and I3, the outputs O1 and O2 both receive the same current.